

## Detailed description of locally built UHMW trapper sled

The *Trapper sled* is a sled designed to: (1) Minimize the failure rate of the sled. (2) Maximize the amount of cargo that may be transported from point A to Point B on a single haul. (3) Keep the sleds payload intact for the duration of the haul. (4) Minimize drag across any surface condition.

### The problem:

Many sleds used in the past for the transportation of fuel, cargo, building materials, firewood, water, etc. have made hauling heavy loads difficult. Some have an elevated platform on a frame with skis or skids in an attempt to isolate the cargo from the bumps and natural uneven trails. Others have rigid steel or aluminum bodies, with metal hitches that cause the sled to “nosedive” in mogul type terrain. Generally these types of cargo sleds create their own problems, by causing the sled to fatigue and break, when speeds other than minimal are obtained.

Additionally, because many of these types of sled have their payload from 6 to 12 inches off the ground, they are prone to tipping when side-hilling, which results in dumping the load, and having to restack the cargo, re-strap, etc. As a result, loads of these types do additional damage to the sled, causing premature wear to its components.

Other problems with steel, wood, and fiberglass sleds relate to the amount of “drag” where the sled base contacts the surface of the trail. Heavy loads make the material used in the construction of the sled a very important factor in the ability to drag it through difficult conditions and terrain.

In winter months, any metal sled becomes increasingly difficult to pull when it makes contact with water, wet snow, overflow, open rivers, slush, etc.) The use of materials that don’t freeze to water when direct contact is made, tremendously decrease the amount of drag, weight, and pulling effort.

Many existing sleds use a metal “V” shaped hitch that connects the body of the sled to the vehicle that is being used to pull it. A negative result of this type of sled is the snow, dirt, or water that is propelled from the track or tires of the pull vehicle, into the cargo area of the sled. It creates additional weight in the sled, as well as causing wet, dirty, or frozen cargo as the trip progresses.

### Enter the “Trapper” sled:

The “*Trapper sled*” is a sled that solves many of the problems described above. It has a similar “tub” shape to some of the pre-existing sleds that have previously been produced and marketed for hauling cargo. The body of the sled, usually 10’ long and in varying widths, lies directly on the ground surface. It’s UHMW (ultra high molecular weight) construction provides a slippery surface to minimize drag across any terrain.

Its center of gravity is as low, or lower than, any other type of cargo sled, due to the fact that it sits directly on the ground surface, as opposed to having the cargo bed elevated on a frame, skis, or skids. This important feature also minimizes the possibility of tipping, turning, or rollovers.

The *Trapper sled* has several press-produced “breaks” at specific points during construction that are designed to change the shape and appearance of the sled depending on its intended use. These breaks not only change the side height of the sled, but they determine the loadable bottom surface width as well. Near the nose and the tail of the cargo bed are “gills” or slits in the material that allow the sides to overlap, and the nose to turn up. Stainless steel bolts and elastic stop nuts secure the gills, and prevent it from returning to its original flat shape.

The *Trapper sled* also uses a front hitch design that all but eliminates the possibility of debris entering the cargo area of the sled. It’s tough. The UHMW “wide-nose” shape not only offers greater strength than previous triangular models, it also keeps the load cleaner and drier. This design also minimizes the rebound shock to the tow vehicle, resulting in the ability to travel faster across difficult terrain. Its galvanized eyebolt is spring loaded to further minimize rebound shock, and is attached with 2” of UHMW block, for greater strength and incredible durability. A slight *push* is felt by the tow vehicle while transversing downhill, as the hitch absorbs the typical sharp pounding and slamming that sleds without a flexible UHMW coupler cannot provide.

To aid in tracking and minimize fishtailing, the *Trapper sled* incorporates a 90-degree stainless steel angle runner near the rear/center portion of the bottom of the sled. It is attached with aircraft type elastic stop nuts to minimize the possibility of the runner coming loose from contact with stumps, roots, rocks, etc.

The *Trapper sled* has braided nylon rope tiedown points encompassing the entire sled. These loops offer many advantages over previous sled tie down designs. Cargo may be secured to the sled by either rope only, or with ratcheting straps, cam over straps, or similar to prevent the load from shifting while in transit.

[www.compeaus.com](http://www.compeaus.com)